

# A Quick Look at Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV3, High-Dose IIV3 (HD-IIV3), Adjuvanted IIV3 (aIIV3), IIV4, IIV4 Intradermal (IIV4-ID)

**Annual influenza vaccination is recommended for all persons 6 months of age and older, including all healthy persons!**

## Indications for Use and Schedule

- Age range for use varies by brand:
  - IIV3 (IM): For persons aged 4 years and older
  - HD-IIV3 and aIIV3 (IM): For persons aged 65 years and older
  - IIV4 (IM): For persons aged 6 months and older
  - IIV4 Intradermal (ID): For persons aged 18 through 64 years

## Key Points

- No preference for any flu vaccine product for any age group
  - Ensure vaccination occurs with an **age-appropriate dose**
- Some children aged 6 months through 8 years may need 2 doses of 2017-18 seasonal flu vaccine to best protect them
- Persons aged 9 years and older only need 1 dose of flu vaccine, regardless of previous flu vaccination history

## Administration<sup>1</sup>

- IIV3, HD-IIV3, aIIV3, and IIV4—administer IM
  - Children: 1 inch needle
  - Adolescents/adults: 1-1.5 inch needle
- IIV4-ID—administer intradermally using **only** the manufacturer's pre-filled syringe over deltoid area of arm
- All IIV can be given with all other vaccines—do not miss an opportunity

## Storage and Handling: All IIV

- Store in the refrigerator unit at 36°F - 46°F (2°C - 8°C)
- Stand-alone purpose built storage units preferred
- Do **not** freeze; keep in original box with lid on/protect from light
- Store different IIV formulations apart and label with age indications
- Do **not** use expired vaccine
- Multi-dose vials (MDV)—Afluria®, Afluria® Quadrivalent, and FluLaval® Quadrivalent, once entered the MDV must be discarded after 28 days; Fluzone® Quadrivalent—a maximum of 10 doses can be withdrawn from MDV, even if drawing out 0.25 mL doses

## Influenza dosage is based on age and flu vaccine product:

- Dosage for persons aged 3 years and older is **0.5 mL regardless** of flu vaccine product
- For children aged **6-35 months** there are 2 licensed flu vaccine products: **Fluzone®** dosage is **0.25 mL**, and **FluLaval®** dosage is **0.5 mL**
- Refer to “2017-18 Seasonal Influenza Vaccine Dosage for Children” at [www.michigan.gov/flu](http://www.michigan.gov/flu)

## Information on which children aged 6 months through 8 years need 2 doses of flu vaccine

- Children aged 6 months through 8 years who received at least 2 doses of any trivalent or quadrivalent seasonal flu vaccine (e.g., IIV3, IIV4, LAIV3, LAIV4, cclIV3, cclIV4) before July 1, 2017, only need 1 dose of 2017-18 flu vaccine
- If a child has not received at least 2 trivalent or quadrivalent flu vaccine doses before July 1, 2017, administer 2 doses of 2017-18 flu vaccine separated by 4 weeks
  - Doses of monovalent H1N1 vaccine do not count toward assessment; it is not a seasonal flu vaccine
- Refer to “Who Needs 2 Doses of 2017-18 Seasonal Influenza Vaccine?” at [www.michigan.gov/flu](http://www.michigan.gov/flu)

## Contraindications (persons who should not receive IIVs)

- Serious allergic reaction (e.g., anaphylaxis) to a previous dose of flu vaccine or one of its components

## Precautions (in certain circumstances, persons may receive IIVs)

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré Syndrome (GBS) within 6 weeks of previous flu vaccination
- **Note:** For persons who report an egg allergy, administer any flu vaccine appropriate for the recipient's age and health status. If the person reports a reaction to eggs other than hives, administer flu vaccine in a medical setting in which a healthcare provider with experience in recognition and management of severe allergic conditions is immediately available.
  - Refer to “2017-18 Influenza Vaccine Screening for Persons who Report Egg Allergy” at [www.michigan.gov/flu](http://www.michigan.gov/flu)

## Further points to consider

- Begin vaccinating as soon as flu vaccine is available and continue throughout the flu season (until vaccine expires)
- Febrile seizures occur in up to 5% of all young children. A CDC study showed a small increased risk for febrile seizures during the 24 hours following simultaneous administration of IIV and PCV13 and/or DTaP. ACIP considered febrile seizure risk after any combination of IIV, PCV13, and DTaP to be small and recommends giving these vaccines simultaneously if needed. For more information, refer to [www.cdc.gov/vaccinesafety/concerns/febrile-seizures.html](http://www.cdc.gov/vaccinesafety/concerns/febrile-seizures.html)
- IIVs can be given with all other vaccine and with antiviral medications; for more information, refer to [www.cdc.gov/flu](http://www.cdc.gov/flu)
- Use current IIV Vaccine Information Statement (VIS) with details about the Michigan Care Improvement Registry (MCIR); Michigan VIS are posted at [www.michigan.gov/immunize](http://www.michigan.gov/immunize)
- Document all flu vaccine doses in MCIR on the “Add Imm” screen under “Vaccine” as:
  - IIV3= multi-dose vials as “Influenza IIV3 (Inject);” in 0.5 mL pre-filled syringes as “Influenza IIV3 (P-Free, Inj)”
  - IIV4= multi-dose vials as “Influenza IIV4 (Inject);” in 0.25 pre-filled syringes as “Influenza IIV4 Ped (P-Free Inj);” in 0.5 mL pre-filled syringes and 0.5 mL single-dose vials as “Influenza IIV4 (P-Free Inj)”
  - HD-IIV3= “Influenza IIV3 High Dose;” aIIV3= “Influenza aIIV3 (Fluad P-free Inj);” IIV4 ID= “Influenza IIV4 Intradermal (P-Free Inj)”
- Document type of flu vaccine given on vaccine administration record and record card as “IIV3,” “HD-IIV3,” “aIIV3,” “IIV4,” or “IIV4 ID”
- For information on Recombinant Inactivated Vaccine, trivalent (RIV3, Flublok®, Protein Sciences), quadrivalent (RIV4, Flublok® Quadrivalent, Protein Sciences), or Cell-Cultured IIV, quadrivalent (cclIV4; Flucelvax® Quadrivalent, Seqirus) refer to package inserts

<sup>1</sup>Assessment of needle size and injection site must be made for each person based on size of the muscle, thickness of adipose tissue at the injection site, volume of the material to be administered, and injection technique. For further information, see Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th edition, Chapter 6 at [www.cdc.gov/vaccines/pubs/pinkbook/index.html](http://www.cdc.gov/vaccines/pubs/pinkbook/index.html).

For further guidance on influenza vaccine recommendations, refer to “Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the ACIP—U.S., 2017-18 Influenza Season,” *MMWR*, Vol. 66(2); 1-20, 8/25/17 located at [www.cdc.gov/mmwr](http://www.cdc.gov/mmwr).

Publicly purchased flu vaccine can be administered to eligible children aged 6 months through 18 years through the Vaccines for Children (VFC) program in private providers' offices. Eligible children include those who are uninsured, underinsured, Medicaid eligible, American Indians and Alaskan Natives. For more information regarding flu vaccination, contact your local health department, visit Michigan Department of Health and Human Services at [www.michigan.gov/flu](http://www.michigan.gov/flu), or visit [www.cdc.gov/flu](http://www.cdc.gov/flu) or [www.cdc.gov/mmwr](http://www.cdc.gov/mmwr).